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ABSTRACT

The thesis that low grades cause college students to give up receives some support from early psychological research and from current reinforcement theories. This study investigates the effects on subsequent grades of low, average, and high first-exam grades for 192 students in a traditional grading system and 52 students in a pass-fail grading system. When regression effects were eliminated, it was found that students receiving D's and F's dropped out significantly more than other students, but low-graded students who continued the course did better on a later exam. Relative to others, students receiving A's on the first exam did significantly better on a second exam. Students in the pass-fail system did not show any significant effects from first exam grades, but overall they received significantly lower grades than those on the traditional grading system. The results, though inconclusive, support grading systems that minimize low grades and maximize high grades. (Author/AF)

DO LOW GRADES CAUSE COLLEGE STUDENTS TO GIVE UP?

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In colleges throughout the country, the traditional grading system (A, B, C, D, F) is coming under increased scrutiny by students and faculty. Because of dissatisfaction of various kinds with the traditional system a number of innovations have become popular. For example, many colleges allow students to take some or all courses on a pass-fail basis. Other colleges have experimented with contract grading in which students perform a specified amount of work for a particular grade, or A, B, C, systems in which "Ds" and "Fs" are never given. A variation of the A, B, C system allows students to withdraw with no penalty at any time if they do not like the grade they are receiving.

Though many arguments have been made about the drawbacks of the traditional grading system, psychologists must be particularly sensitive to the argument that low grades cause college students to give up. There was a good deal of early interest in the general effects of failure and success, and the early research suggested that for some people failure is not an incentive to greater efforts (see, Birney, Burdick, & Teevan, 1969). Currently, reinforcement theories have made us aware that positive reinforcement is an excellent means of modifying behavior. And punishment, while it clearly modifies behavior, may have negative concomitant effects (Bandura 1969).

The present investigation was motivated by some general psychological interest in the above problems and by continuing controversies at Long Beach State over grades. It appeared to me, that past classes in which traditional tests and grades had been used would be excellent microcosms for obtaining information about problems of interest. The continuing performance of students receiving low, average, and high grades could be observed to note the effects of different kinds of grades. Of course, such a research approach would suffer the usual problems associated with correlational studies. Causal factors could only be assumed, and important unknown variables could never be completely controlled.

The specific plan of this study was to obtain a sample of students who took the same classes under the traditional grading system and to observe their second semester-exam grades in relation to their first semester-exam grades. The classes involved had two midsemester exams and a final. Of particular interest was the second-exam performance of the students who had received low grades on the first exam. It also would have been interesting to note the final

grades and subsequent semester grades of our target students, but variations in finals and little control over student records made the latter observations impossible.

METHOD and PROCEDURE

The subjects for this study came from five junior-level social psychology classes conducted between fall 1968 and spring 1969. Two classes were large (over 70) and three were small (under 40). There were a total of 192 students who took the courses under the traditional grading system, and 54 students enrolled under a pass-fail grading system. At Long Beach, students may take up to 12 undergraduate units on pass-fail, and they must earn at least a "D" to obtain a "pass." In these classes, traditional grades are typically provided to the student, but "passes" or "fails" are given to the registrar at semester's end.

The above sample classes were chosen because each had two very similar midterm examinations. Each exam was half essay and half objective (multiple choice), and the grade distributions for all classes were quite similar. In preparation for the study, grades for each class for each exam were put into standard scores. Thus for each class, two sets of standard scores were computed. Naturally, all students received letter grades.

One way of approaching the present problem would be to simply note whether individuals obtained the same, better, or poorer second-test grades compared to the first. Unfortunately, since there are undoubtedly many measurement errors in test scores and since the two test scores are imperfectly correlated, such a procedure would produce substantial errors due to the tendency of students having extreme scores on the first test to obtain scores which regress toward the mean on the second testing. Though the determinants of performance may have remained constant, students having low scores on the first test could be expected to do better, and students having high scores on the first test could be expected to do more poorly on the second test. In the present study, the bothersome regression effects were dealt with by noting increases or decreases in grades in relation to the regression line of the second test scores on the first test scores. In other words, while observing the second test scores, the first test scores were held constant statistically. The data appeared to be homoscadistic and the regression lines linear.

RESULTS

The correlation between first and second testing was .70 for traditionally graded students and .46 for pass-fail students. Table 1 indicates the performance of traditionally-graded students on the second exam relative to the first.

It can be noted that students who dropped out almost all received "Ds" and "Fs" on the first exam ($\chi^2 = 20.42$; $p < .001$). However, among all students who did not drop, those earning low grades on the first exam (Fs, Ds, & Cs) did not do more poorly on the second exam. In fact, there was actually a tendency for those students to do slightly better on the second exam.

"B" students did slightly more poorly on the second exam than the first, but the difference was not statistically significant. An interesting finding occurred for students receiving "As" on the first exam. These students did significantly better on the second exam ($\chi^2 = 4.1$; $p < .05$). Naturally this finding would not be possible without use of the Y on X regression to evaluate change scores; students receiving the highest grades on the first exam could not have done better on the second exam. With the regression line, however, this finding means that a significant number of students receiving "As" on the first exam continued to receive high grades on the second exam and failed to show the predicted regression effects relative to other students in the sample.

Among students receiving pass-fail grades, no significant tendencies to drop, increase, or decrease were noted (see Table 2). Of course, pass-fail students did receive significantly lower overall grades than students on the traditional grading system ($t = 5.2$; $p < .001$).

In addition to the results reported above, Tables 1 and 2 also contain the first to second test changes evaluated without use of the Y on X regression line (numbers are in parentheses; frequencies for "As" and "Bs" are combined). As can be seen, "C" students, who are close to the mean and whose scores could be expected to show relatively minor regression effects, do improve on the second exam. Since "Cs" are usually seen today as low grades, these results are consistent with those reported above.

CONCLUSIONS

The question posed at the beginning of this study, "Do low grades cause college students to give up?" must be answered both yes and no. Students receiving "Ds" and "Fs" are much more likely to drop out than those receiving any other grade. On the other hand, if students receiving low grades do not drop they will not do more poorly on subsequent exams; they may actually do better. Finally, it is intriguing to note that students who receive the highe grades initially, appear to do even better on later exams.

The reported results, while provocative, obviously do not allow firm conclusions about the causal influences of low or high grades. Students with low grades who dropped out may have been realistically evaluating their own

incapacities. And "A" students who did better on the second exam may not have been influenced by the high grades; because of superior ability, they could have been doing increasingly better than their fellows as the semester progressed. If ethical principles permitted, it would be interesting to test these results with an experimental study.

Finally, one might ask how these results can be interpreted in relation to innovations from the traditional grading system. While firm conclusions cannot be drawn, the findings do provide some useful evidence. Fears about the negative effects of low grades in the traditional system are allayed by the observation that students who stay in the system do better on subsequent exams. On the other hand, the tendencies to drop by "D" and "F" students suggest the value of systems which effectively eliminate "D" and "F" grades. Also the superior later performance of students receiving first-exam "As" gives cause to favorably consider grading systems which optimize the opportunity of students to obtain high grades.

REFERENCES

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TABLE 1

The Relationship of First and Second-Examination Grades for Students on a Traditional Grade System

First Exam Grade	Second Exam Grade: Higher	Lower	Same	Drop
A	24	11		
B	34 (53*)	41 (74*)	(3*)	1 (2*)
C	28 (28*)	24 (23*)	(1*)	
D & F	10 (12*)	9 (7*)		10 (30*)

* Second exam test scores evaluated without use of Y on X regression.

TABLE 2

The Relationship of First and Second-Examination Grades for Students on a Pass-Fail Grade System

First Exam Grade	Second Exam Grade: Higher	Lower	Same	Drop
A	3			
B	4 (3*)	5 (9*)		
C	8 (9*)	14 (13*)		
D & F	8 (9*)	10 (9*)		2 (2*)

* Second exam test scores evaluated without use of Y on X regression.